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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-------------------------|------------------|
| 10/708,676 | 03/18/2004 | Timothy G. Offerle | 81095827FGT1909 | 2675 |
| 28549 | 7590 | 11/30/2005 | EXAMINER | |
| KEVIN G. MIERZWA ARTZ & ARTZ, P.C. 28333 TELEGRAPH ROAD, SUITE 250 SOUTHFIELD, MI 48034 | | | SCHWARTZ, CHRISTOPHER P | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3683 | |

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------|----------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/708,676 | OFFERLE ET AL. | |
| | Examiner | Art Unit | |
| | Christopher P. Schwartz | 3683 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 September 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Christopher P. Schwartz
CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER

DETAILED ACTION

1. Applicant's amendment filed 9/20/05 has been received and considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-12,14,15,32-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over US publication to Mizusawa et al. '663 in view of McGregor et al.

Regarding claim 1 Mizusawa et al. discloses a system for controlling the positioning of a trailer with respect to a towing vehicle, as discussed in paragraphs 5,12,33, and 48. The system uses a multitude of cameras positioned on the left and right sides of the vehicle, which may be any of those listed in paragraph 35.

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The reference to Mizusawa et al. lacks using a trailer sensor during a forward motion of the vehicle to determine "a straight position" of the trailer.

McGregor et al. Teaches it is widely known to use sensors to determined the alignment of the ball and socket connectors i.e a "straight" position of the trailer. See the discussion in col 1 lines 43-50. McGregor et al. instead uses HD or hitch docking sensors, as discussed in columns 2 and 3.

It is notoriously well known in the art to use such hitch angle sensors to determine a "straight position of the trailer" during forward and backward motion to prevent the possibility of the trailer jackknifing or collisions with other objects. Although not applied, see the cited references to Gerum et al., Lee et al., Kimbrough et al., the U.S. publication to Funke et al. and Deng et al. '979.

It would have been an obvious alternative equivalent method of aligning the trailer with respect to the tow vehicle socket by providing Mizusawa et al. with a hitch or trailer sensor, as taught by McGregor et al. so that the ball of the hitch may be mated to the hole/socket dependent upon such well known criteria as complexity of installation and costs. As broadly claimed, (notwithstanding the non-applied art above) this could also be done when the driver pulls the vehicle forward to line up the hitch with the socket on the trailer. The limitation of "controlling the vehicle to maintain the trailer in the straight position" as broadly claimed can be easily achieved by the driver (and mirror system on the vehicle) alone.

Regarding claim 3, see the discussion in McGregor et al. col 3 lines 23-28. Note also the multitude of sensors discussed in col. 3 of McGregor et al., such as the well

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known collision avoidance sensors. Other sensors are proximity sensors that an sound an audible alarm. Any of these known sensors could be used in the device of Mizusawa et al. for a "reverse aid sensor", as broadly claimed.

Regarding claims 4-6 these requirements are fairly suggested by the combined references above. Just about any "hitch" assembly on a trailer will comprise a ball and socket combination, and dependent upon the type of trailer, a "locating plate" as broadly claimed. Note the camera discussed on page 3 paragraph 48 of Mizusawa et al.

Regarding claim 7, as best understood, these requirements are taught by the combined references.

Regarding claim 8, see the discussion in col. 2 lines 25 of McGregor et al. To have used such a steering angle sensor in the device of Mizusawa et al. would have been an obvious lower cost alternative to the camera set up of Mizusawa et al., or an obvious addition for redundancy purposes (should a camera fail).

Regarding claims 9-12 since nearly all vehicles have a "shift lever" to control the operating condition of the transmission and therefore the direction of the vehicle and trailer, and linked to the vehicles reverse lights, these requirements, as broadly claimed, are considered to be taught by the combined references.

Regarding claims 14,15 nearly all vehicles are equipped with turn signal levers that enable the driver to "select" a direction.

Regarding claims 32-35, as discussed above, these requirements are met.

5. Claim 13 rejected under 35 U.S.C. 103(a) as being unpatentable over US publication to Mizusawa et al. '663 in view of McGregor et al. as applied to claim 9 above, and further in view of US publication to Thiede et al.

Regarding claim 13 wheel speed sensors that are capable of indicating direction as well as speed are notoriously well known in the art. Some types of Hall effect sensors can do this. Thiede et al. Is relied upon for this teaching in paragraph 9.

6. Claims 17-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over US publication to Mizusawa et al. '663 in view of McGregor et al. and Gerum et al.

Regarding claim 17, as best understood, Mizusawa et al. '663 in view of McGregor et al. is relied upon as above. McGregor et al. Teaches in col. 2 a known type of steering actuator 38 in mechanical communication with a transverse steering bar 40 which controls the steering angle of the rear wheels 19. This known device could easily be used in Mizusawa et al. '663. However no clear mention of "brake steer" is made in either reference.

This idea is old and well known in the art to increase maneuverability at low speeds. This known idea is taught by Gerum et al. in col. 4 lines 48-55 and claims 9 and 10.

It would have been obvious to have applied the notoriously well known concept of brake steer to the axle/wheels of the vehicle and/or trailer for Mizusawa et al., as modified, for the reason above.

Regarding claims 18-31, subject to the 112 rejection above, as best understood these requirements are suggested by the combined references as explained above.

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Note the control unit 30 and dashboard control 46 discussed in McGregor et al. col. 2. lines 56+.

Response to Arguments

7. Applicant's arguments filed 9/20/05 have been fully considered but they are not persuasive. Applicant's claims remain unduly broad. Applicant's should consider amendments to the independent claims to further limit them over the prior art of record. Applicant's arguments have been addressed in the action above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

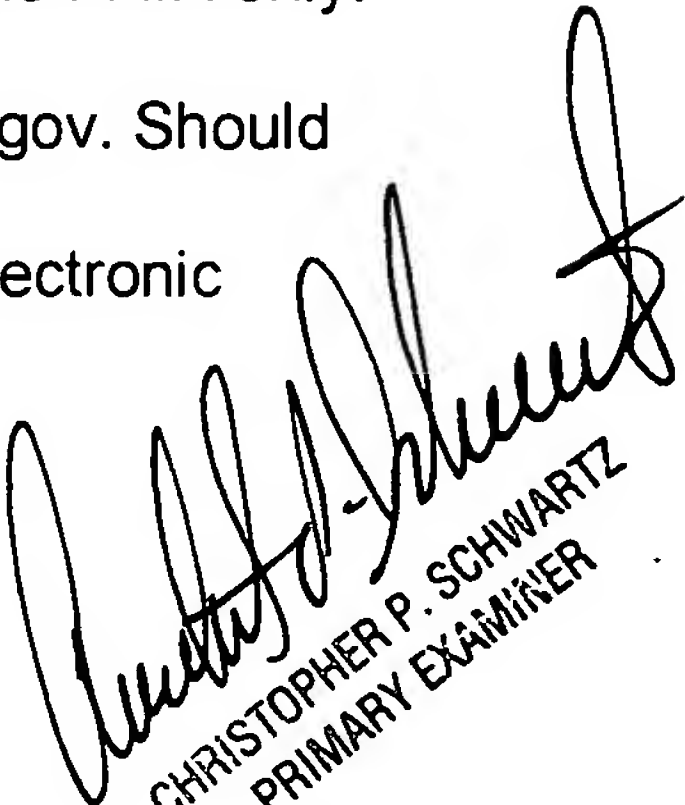
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P. Schwartz whose telephone number is 571-272-7123. The examiner can normally be reached on M-F 9:30-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jim McClellan can be reached on 571-272-6786. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cps
11/25/05



CHRISTOPHER P. SCHWARTZ
PRIMARY EXAMINER